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EXAMINER

HASSAN, AURANGZEB

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/677,583
Filing Date: October 02, 2003
Appellant(s): KESSLER ET AL.

Mark E. Scott, Reg. No. 43100
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 6/9/2009 appealing from the Office action mailed 3/18/2009.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6647469	Sharma et al.	11-2003
5522069	Bertone et al.	5-1996

(9) Grounds of Rejection

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The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma et al. (US Patent Number 6,647,469 hereinafter "Sharma") in view of Bertone et al. (US Patent Number 5,522,069).

As per claim 3, Sharma teaches a distributed multiprocessing computer system (figure 1), comprising: a plurality of processors (element 125, figure 1) each coupled to an I/O bridge; a plurality of memory modules coupled one each to the plurality of processors (DIMMS, element 135, figure 1), each memory module able to store data blocks that are shared between said processors, wherein coherence of the shared data blocks is maintained using a directory based coherence protocol (memory configured to support a directory based coherency scheme, column 7, lines 1 – 3); at least one I/O device coupled to the I/O bridge, the I/O device and I/O bridge adapted to perform a direct memory access (DMA) to transfer data blocks to the memory modules (I/O device, column 6, lines 45 – 58); and wherein the I/O bridge obtains exclusive ownership of

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shared memory module data blocks during I/O device access (column 6, lines 59 – 65) and wherein said I/O bridge includes a DMA device configured to perform both DMA reads and writes on streams of data blocks (column 7, lines 65 – 67, column 8, lines 1 – 9).

However, Sharma does not explicitly disclose the out-of-order structure.

Bertone teaches access in which data is configured to both in-order and out-of-order data handling on streams (column 17, lines 13 – 23).

It would have been obvious of one of ordinary skill in the art to recognize that Sharma teaches has the DMA structure to support an in-order and out-of-order read/write and modify it with the implementation as seen in Bertone above. One of ordinary skill would be motivated to make such modification in order to improve system bus operation for transfer to and from memory (column 1, lines 49 – 55).

Furthermore the Examiner notes other rationale that Sharma teaches a distributed multiprocessing computer system including DMA data transfer (figure 1) and Bertone teaches a system in which data transfer is enhanced by in-order and out-of-order operations (column 17) to enhance transfers to and from memory.

All of the component parts of Sharma and Bertone were known at the time of the applicant's claimed invention the only difference is the combination of the known elements in a single data transfer system thus it would have been obvious to one of ordinary skill in the art to combine all the elements in a single system to yield a predictable result of enhanced data transfers.

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As per claim 4, Sharma teaches a distributed multiprocessing computer system wherein the DMA device that performs an in-order stream of reads of data blocks always receives coherent data blocks that do not have to be written back to the memory module (figure 5, column 9, lines 30 – 67).

(10) Response to Argument

The Appellant argues:

“Bertone does not appear to teach out-of-order DMA for I/O device access.”

Examiner’s Response:

The Examiner respectfully disagrees. The Appellant argues that in-order and out-of-order teachings are not directed to the DMA and in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The Examiner clearly relies upon Sharma for teachings and structure of DMA and merely relies upon Bertone for the teachings of how data can be handled both in-order and out-of-order.

The Appellant argues:

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“..Sharma and Bertone fail to teach or fairly suggest ‘wherein the DMA device that performs an in-order stream of reads of data blocks always receives coherent data blocks that do not have to be written back to the memory module.’ “

Examiner’s Response:

The Examiner respectfully disagrees. The Appellant states that Sharma may be used for many request types and accordingly in response to applicant's argument that Sharma is capable of handling multiple requests, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

The Examiner has cited the particular data blocks seen in figure 5 to represent the data blocks in a DMA request as necessitated by the claim limitations. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

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Sharma having the capability to handle various types of requests does not deter from any coherency in the data blocks pertaining to the limitations necessitated by the claims. The Appellant has not provided any additional arguments that would preclude the structure of Sharma/Bertone from operating as required by the claims.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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